IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS MARSHALL DIVISION

NAVICO INC. and NAVICO HOLDING AS,	
Plaintiffs,)
v.) Civil Action No. 2:16-cv-00190
GARMIN INTERNATIONAL, INC. and GARMIN USA, INC.,) JURY TRIAL DEMANDED)
Defendants.)

GARMIN'S ANSWER TO NAVICO'S FIRST AMENDED COMPLAINT

Defendants Garmin International, Inc. and Garmin USA, Inc. (collectively, "Garmin") submit this Answer to the First Amended Complaint filed by Plaintiffs Navico, Inc. and Navico Holding AS (collectively, "Navico") on November 18, 2016.

GENERAL DENIAL

Garmin denies that it infringes Navico's patents. Garmin further denies that Navico's patents are valid and enforceable. Garmin denies that its advertising is false. Unless specifically admitted below, Garmin denies each and every factual allegation in the Complaint. Where Garmin has not had sufficient time and opportunity to collect and review information that may be relevant and necessary to respond to the allegations in the Complaint, and where for some other reason Garmin lacks knowledge or information sufficient to form a belief about such allegations, Garmin therefore denies those allegations. Garmin reserves the right to take any further positions and raise additional defenses as may become apparent as a result of further information which may be discovered after filing this response.

NATURE OF ACTION

1. Garmin admits that Navico filed its First Amended Complaint alleging patent infringement arising under the patent laws of the United States, Title 35 of the United States Code and alleging false advertising under the Lanham Act, 15 U.S.C. § 1125(a). Garmin denies that it has engaged in any unlawful activities and denies that any bases exist for Navico's allegations against Garmin.

THE PARTIES

- 2. Admitted.
- 3. Admitted.
- 4. Admitted.
- 5. Admitted.
- 6. Admitted.
- 7. Denied.
- 8. Garmin denies that Garmin USA, Inc. is engaged in the offer for sale and sale of certain of the Accused Products to customers nationwide, including in this District. Garmin admits that Garmin USA, Inc. maintains a network of authorized dealers, which comprises locations in this District and nationwide. Garmin denies that its products infringe Navico's patents.

JURISDICTION AND VENUE

- 9. Garmin admits that Navico has asserted claims arising under the Patent Act and the Lanham Act. Garmin denies that it infringes any valid patent claim asserted by or that it has engaged in false advertising as alleged by Navico.
 - 10. Admitted.

- 11. Garmin admits personal jurisdiction over it in this Court for this action as to Garmin International, Inc. and Garmin USA, Inc. Garmin denies that it infringes any valid patent claim asserted by Navico. Garmin denies that it has committed acts of false advertising.
- 12. Garmin admits that venue is proper in this judicial district; however, the Northern District of Oklahoma is the more convenient venue. Garmin has moved to transfer this action to the Northern District of Oklahoma, and the Amended Complaint does not affect Garmin's motion or the strength of Garmin's motion in any way. Garmin denies that it infringes any valid patent claim asserted by Navico. Garmin denies that it has committed acts of false advertising.

THE ASSERTED PATENTS

- 13. Garmin admits that the complaint is based in part on United States Patent Nos. 9,223,022 ("the '022 Patent") and 9,244,168 ("the '168 Patent") (collectively "the Asserted Patents"). Garmin denies that it infringes Navico's patents and avers that Navico's patents are invalid and unenforceable.
- 14. Garmin admits that the '022 Patent is entitled "Linear and Circular Downscan Imaging Sonar" and has an issue date of December 29, 2015. Further, Garmin admits that Navico attached a copy of the '022 Patent as Exhibit A to the Complaint. Garmin denies that the '022 Patent duly and legally issued because it is invalid and unenforceable. Gamin lacks knowledge or information sufficient to form a belief about the truth of the ownership, assignment, and licensing of the '022 Patent by Navico, and therefore denies those allegations.
- 15. Garmin admits that the '022 Patent is directed to the general subject matter of sonar for imaging an underwater environment beneath a watercraft, but denies any characterization of the alleged invention not based on the claims. The subject matter claimed in the '022 Patent is set forth in the claims.

- 16. Garmin admits that the '168 Patent is entitled "Sonar System Using Frequency Bursts" and has an issue date of January 26, 2016. Further, Garmin admits that Navico attached a copy of the '168 Patent as Exhibit B to the Complaint. Garmin denies that the '168 Patent duly and legally issued because it is invalid and unenforceable. Gamin lacks knowledge or information sufficient to form a belief about the truth of the ownership, assignment, and licensing of the '168 Patent by Navico, and therefore denies those allegations.
- 17. Garmin admits that the '168 Patent is directed to the general subject matter of sonar configured to travel along a surface of a body of water, but denies any characterization of the invention not based on the claims. The subject matter claimed in the '168 Patent is set forth in the claims.

BACKGROUND

- 18. Admitted.
- 19. Garmin lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 19, and therefore denies those allegations.
- 20. Garmin lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 20, and therefore denies those allegations.
 - 21. Admitted.
- 22. Garmin denies that Navico's patents are the result of innovation by Navico. Garmin lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 22, and therefore denies those allegations.
- 23. Garmin denies the allegations of paragraph 23. Navico's DownScan Imaging sonar technology did not "raise the bar" and is not "new" because, as explained below, there were prior art references that demonstrated sonar technology adept at generating sharp,

picture-like images. As discussed further below, those references were material, yet Navico deliberately withheld them from the Patent Office during prosecution of the '022 Patent.

- 24. Garmin denies that Navico's Downscan Imaging is the result of innovations by Navico. Garmin lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in paragraph 24, and therefore denies those allegations. Answering further, there were prior art references that demonstrated sonar technology adept at generating near picture-perfect images. As discussed further below, those references were material, yet Navico deliberately withheld them from the Patent Office during prosecution of the '022 Patent.
- 25. Garmin lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 25, and therefore denies those allegations.
- 26. Garmin lacks knowledge or information sufficient to form a belief about the truth of the allegations in paragraph 26, and therefore denies those allegations.
- 27. Garmin denies that it "follow[ed] Navico's lead" or that the technologies described and claimed in the Asserted Patents are "Navico's technologies." Garmin no longer advertises some of its products as featuring DownVü or as having both DownVü and SideVü. Garmin denies the remaining allegations of paragraph 27.
- 28. Garmin admits that it produces products that are referred to as fishfinders, fishfinders/GPS combos, chartplotter/sonar combos, transducers, and/or sonar modules. Garmin admits that its marine products can have a head unit that has a display and electronics that are located either in the head unit or a sonar module. Garmin denies that its 2016 Marine Catalog reflects the current generation of certain products accused by Navico in this action. Garmin denies that its marine products have a "circular transducer element" or a "linear transducer

element" as stated in the patent claims. Garmin denies any characterization based on the claim terms. Garmin denies infringement and denies that its products meet the claim limitations.

- 29. Denied.
- 30. Denied.
- 31. Denied. Answering further, Garmin no longer advertises DownVü. Garmin previously advertised DownVü using an image of a fan-based sonar beam, and stated in marketing material that DownVü "gives you a clearer picture of what's below your boat." Garmin denies that Garmin's DownVü features infringe the Asserted Patents. There were prior art references that demonstrated sonar technology adept at generating clearer picture images. As discussed further below, those references were material, yet Navico deliberately withheld them from the Patent Office during prosecution of the '022 Patent.
- 32. Garmin admits that Navico and Garmin have previously litigated the issue of infringement of other, related Navico patents by versions of Garmin products containing DownVü. Garmin admits that the International Trade Commission (the "Commission") found that Garmin infringed two Navico patents; however, the Commission also found that some claims of U.S. Patent No. 8,605,550 were invalid and found that U.S. Patent No. 8,300,499 ("the '499 Patent") was not infringed. The Commission Opinion is currently on appeal at the U.S. Court of Appeals of the Federal Circuit. The '022 Patent is a continuation of the '499 Patent.
- 33. Garmin admits that Navico and Garmin are continuing to litigate these issues in the Northern District of Oklahoma (the "Oklahoma Action"). Garmin admits that the district court stayed the litigation pending resolution of appeals to the United States Court of Appeals for the Federal Circuit from the Commission Opinion.

- 34. Garmin denies that its marine products have a "linear transducer element" as stated in the patent claims. Garmin denies any characterization based on the claim terms. Garmin denies infringement and denies its products meet the claim limitations. Garmin admits that it introduced its tilted design of its DownVü products in September 2015 and that the tilted design included a 16 degree tilt of a transducer. DownVü products with this tilted design are at issue in the Oklahoma Action where Navico took document and deposition discovery regarding the tilted design. Garmin no longer sells or advertises the tilted design and it never infringed. Garmin denies the remaining allegations of paragraph 34.
- 35. Garmin denies that its marine products have a "circular transducer element" or a "linear transducer element" as stated in the patent claims. Garmin denies any characterization based on the claim terms. Garmin denies infringement and denies its products meet the claim limitations. Garmin admits that previous versions of the listed products included where applicable the tilted design, which never infringed.
- 36. Garmin admits that its products with multiple transducers can be configured to project sonar beams at two different frequencies. Garmin denies that its marine products have a "circular transducer element" or a "linear transducer element" as stated in the patent claims. Garmin denies any characterization based on the claim terms. Garmin denies infringement and denies its products meet the claim limitations.
- 37. Garmin admits that in its products with multiple transducers, the transducers are electrically connected together and connected to a signal transmitter. Garmin admits that its signal transmitter can be configured to transmit a signal at multiple frequencies. Garmin denies that its marine products have a "circular transducer element" or a "linear

transducer element" as stated in the patent claims. Garmin denies any characterization based on the claim terms. Garmin denies infringement and denies its products meet the claim limitations.

- 38. Garmin admits that it provides users of the Accused Products an owner's manual and installation instructions. Garmin denies that it indirectly infringes the Asserted Patents, either by inducing infringement or contributorily infringing.
- 39. Garmin admits that after Navico filed its original Complaint in this action in March 2016, Garmin designed and introduced to the market scanning sonar products that included a feature called "ClearVü." Garmin further admits that, at a time prior to the filing of the original Complaint in this action, it manufactured and sold scanning sonar products under a brand name called "ClearVü," and that the functionality of the products branded as "ClearVü" differs from the functionality of the current generation of products that feature ClearVü. Garmin also admits that it has advertised products that either were branded as or feature "ClearVü." Garmin denies that it has made any false or misleading statements about ClearVü, in violation of the Lanham Act or otherwise, and Garmin denies that it has committed any acts of false advertising.
- 40. Garmin admits that it has made, on its website, statements about products that either were branded as or feature "ClearVü," and admits that the statements alleged in paragraph 40 are among those it has made about these categories of products. Garmin denies that it has made any false or misleading statements about ClearVü, in violation of the Lanham Act or otherwise, and Garmin denies that it has committed any acts of false advertising.
 - 41. Denied.
 - 42. Denied.

- 43. Paragraph 43 contains legal conclusions for which no response is required. To the extent a response is required, Garmin denies the allegations in paragraph 43. Garmin denies that it has made any false or misleading statements about ClearVü, in violation of the Lanham Act or otherwise, and Garmin denies that it has committed any acts of false advertising.
- 44. Paragraph 44 contains legal conclusions for which no response is required. To the extent a response is required, Garmin admits that Garmin intends its advertising to influence purchasing decisions, but lacks knowledge of information sufficient to form a belief as to the truth of whether any given statement or group of statements is in fact material to purchasing decisions, and therefore denies the allegations in paragraph 44. Garmin denies that it has made any false or misleading statements about ClearVü, in violation of the Lanham Act or otherwise, and Garmin denies that it has committed any acts of false advertising.
- 45. Garmin admits that it and Navico compete within the inland marine sonar products market. Garmin denies that it has made any false or misleading statements about ClearVü, in violation of the Lanham Act or otherwise, and Garmin denies that it has committed any acts of false advertising.
- 46. Garmin denies that the technologies described and claimed in the Asserted Patents are "Navico's" technology because, as explained below, there were prior art references that demonstrated sonar technology adept at generating "detailed and accurate images of the area underneath a [] boat." As discussed further below, those references were material, yet Navico deliberately withheld them from the Patent Office during prosecution of the '022 Patent. Garmin lacks knowledge or information sufficient to form a belief about the truth of the allegation in paragraph 46 that the technology described and claimed in the Asserted Patents constitutes a "significant selling point" for products containing such technology, and therefore denies that

allegation. Garmin lacks knowledge or information sufficient to form a belief about the truth of the allegation in paragraph 46 that all major providers of marine electronics are licensees of the Asserted Patents, and therefore denies that allegation. Garmin denies that it indirectly infringes the Asserted Patents, either by inducing infringement or contributorily infringing. Garmin denies that it has made any false or misleading statements about ClearVü, in volition of the Lanham Act or otherwise, and Garmin denies that it has committed any acts of false advertising.

47. Denied.

ANSWER TO CLAIM 1 – ALLEGED INFRINGEMENT OF U.S. PATENT NO. 9,223,022

- 48. Garmin incorporates its responses to paragraphs 1–47.
- 49. Denied.
- 50. Garmin admits that it has had knowledge of the '022 Patent and has known of the '022 Patent since January 6, 2016. Garmin denies the remaining allegations of paragraph 52.
 - 51. Denied.
 - 52. Denied.
 - 53. Denied.

ANSWER TO CLAIM 2 – ALLEGED INFRINGEMENT OF U.S. PATENT NO. 9,244,168

- 54. Garmin incorporates its responses to paragraphs 1–53.
- 55. Denied.
- 56. Garmin admits that it has had knowledge of the '168 Patent and has known of the '168 Patent since February 2, 2016. Garmin denies the remaining allegations of paragraph 58.
 - 57. Denied.
 - 58. Denied.

59. Denied.

ANSWER TO CLAIM 3 – ALLEGED FALSE ADVERTISING IN VIOLATION OF SECTION 43(A) OF THE LANHAM ACT, 15 U.S.C. § 1125(A)

- 60. Garmin incorporates its responses to paragraphs 1–59.
- 61. Denied.
- 62. Denied.
- 63. Denied.
- 64. Admitted.
- 65. Paragraph 65 contains legal conclusions for which no response is required. To the extent a response is required, Garmin denies the allegations in paragraph 65, except admits that it has made, on its website, statements about products that either were branded as or feature "ClearVü," admits that the alleged statements regarding ClearVü about these categories of products, and admits that products containing ClearVü traveled in interstate commerce.
 - 66. Denied.
 - 67. Denied.
 - 68. Denied.
 - 69. Denied.
 - 70. Denied.

ANSWER TO PRAYER FOR RELIEF

Garmin denies that Navico is entitled to any relief Navico seeks in its prayer for relief or any other relief.

DEFENSES

Defendants Garmin International, Inc. and Garmin USA, Inc. (collectively, "Garmin"), as further and separate defenses to the Complaint and without assuming any burden

it would not otherwise have, and without admitting that it bears the burden of proof, alleges the following defenses. Garmin expressly reserves the right to allege additional defenses after appropriate discovery.

First Defense (Failure to State a Claim for Relief)

1. The Complaint fails to state a claim upon which relief can be granted.

Second Defense (Noninfringement)

- 2. Garmin does not infringe, either directly, contributorily, or by inducement, any valid and enforceable asserted claim of the '022 Patent, including at least claim 1. Garmin is not liable for infringement of the '022 Patent.
- 3. Garmin does not infringe, either directly, contributorily, or by inducement, any valid and enforceable asserted claim of the '168 Patent, including at least claim 1. Garmin is not liable for infringement of the '168 Patent.

Third Defense (Invalidity)

- 4. The asserted claims of the '022 Patent, including at least asserted claim 1, are invalid for failure to comply with the conditions and requirements of patentability set forth in United States Patent Laws, Title 35 U.S.C., including specifically and without limitation §§ 101, 102, 103, 112, and/or 116 and the rules, regulations, and laws pertaining thereto.
- 5. The asserted claims of the '168 Patent, including at least asserted claim 1, are invalid due to failure to comply with the conditions and requirements of patentability set forth in United States Patent Laws, Title 35 U.S.C., including specifically and without limitation §§ 101, 102, 103, 112, and/or 116 and the rules, regulations, and laws pertaining thereto.
- 6. Specifically, and without limitation, the asserted claims of the Asserted Patents are invalid under §§ 102 and 103 in light of at least but not limited to the following systems and/or references:

References Related to AIRMAR Systems

- Airmar Press Release: AIRMAR INTRODUCES P48W 200kHz ADJUSTABLE, WIDE-BEAM, TRANSOM-MOUNT: Industry's widest 200 kHz transducer can help win fishing tournaments (Apr. 23, 2009)
- Airmar Technology Corporation Brochure/Presentation: Guide to Transducer Technology
- Airmar Technology Corporation Datasheet: P48W 100W Adjustable Wide-Beam Transom-Mount Transducer (Aug. 2008)
- Airmar Technology Corporation Datasheet: P48W Transom-Mount Adjustable Wide-Beam (Dec. 2010)
- Airmar Technology Corporation Datasheet: Retractable Transducer DST9000 (Sept. 2005)
- Airmar Technology Corporation Datasheet: R209 2 to 3 kW Dual Frequency Transducer (Oct. 2007)
- Airmar Technology Corporation Guide to Transducer Technology (Aug. 2004)
- Boucher, S.G., et al., U.S. Patent No. 7,961,552, Fan Beam Transducer Assembly (Aug. 2008)
- Boucher, S.G., et al., U.S. Patent No. 6,904,798, *Multi-Functional Marine Sensing Instrument* (Jun. 2005)
- Owner's Guide & Installation Instructions, Transom or Tolling Motor Mount, Chirp or Adjustable Wide-beam Transducer, Models: P48W, TM130M, TM150M, TM210H (2013)
- Airmar P48W Transom-Mount Adjustable Wide-Beam Transducer System

References Related to Garmin Systems

- Garmin GPSMAP 135 Sounder Owner's Manual and Reference (May 1997)
- Garmin GPSMAP 3206/3210 Color Chartplotter Owner's Manual (June 2006)
- Garmin GPSMAP 4000/5000 Series Owner's Manual (May 2007)
- Garmin Press Release, Garmin Targets Sport Fishermen with New Black-Box Solutions and Spread Spectrum Technology (February 15, 2011)
- Garmin Transducer Housing Design Drawings [GARMIN_EDTX_00041907–13]

References Related to GeoAcoustics Systems

- GeoAcoustics, GeoSwath Operation Manual Swath 6100/B (Sept. 1998)
- GeoAcoustics, GeoSwath Product Bulletin (2000)
- Hogarth, P., Low Cost Swath Bathymetry: Widening the swath bathymetry market, Hydro International (Jul. 2000)
- Product Survey Side Scan Sonar, Hydro International pp. 36-39 (Apr. 2004)

References Related to Humminbird Systems

- Betts, D.A., et al., U.S. Patent No. 7,652,952, Sonar Imaging System for Mounting to Watercraft (Feb. 2006)
- Betts, D.A., et al., U.S. Patent No. 7,729,203, Side Scan Sonar Imaging System with Associated GPS Data (Jan. 2009)
- Betts, D.A., et al., U.S. Patent No. 7,710,825, *Side Scan Sonar Imaging System with Boat Position on Display* (May 2009)
- Betts, D.A., et al., U.S. Patent No. 7,755,974, Side Scan Sonar Imaging System with Enhancement (Jun. 2009)

- Humminbird 997c Manual (2008)
- Humminbird 1100 Series Manual (1157c / 1157c NVB Dual Beam & 1197c / 1197c NVB SI Combo) (Nov. 2007)
- Humminbird Brochure for Hummingbird *Wide* Product Line (1997)
- Humminbird Wide Eye Operations Manual
- Humminbird WIDE Series Product Brochure (1995)
- Humminbird Matrix 97 GPS Trackplotter Operations Manual (2003)
- Humminbird WIDE 3D VISION Operators Manual
- Humminbird WIDESIDE Product Brochure, Diagrams and Schematics
- Press Release: Humminbird Expands Innovative Sonar Offerings with the Addition of Down ImagingTM (Sep. 28, 2009)
- Internet Archive for Humminbird Down Imaging Transom Mount Transducers
- Humminbird 570 DI Manual (2011)

References Related to Imagenex Systems

- Datasheet / Specification for Imagenex Model 881 Digital Tilt Adjust Imaging Sonar (Aug. 2002)
- Datasheet / Specification for Imagenex Sportscan (Aug. 2005)
- Product Survey Side Scan Sonar, *Hydro International* pp. 36-39 (Apr. 2004)
- Imagenex Model 881 Sportscan Single or Dual Frequency Digital Sidescan Sonar Software User's Manual (May 2003)
- Imagenex Model 855 Color Imaging Sonar User's Manual Excerpt: *Sonar Theory and Applications*, Imagenex Technology Corp. Patents
- Imagenex Model 855 Color Imaging Sonar System Product Brochure
- Imagenex Website Products Page (Feb. 2003)
- Imagenex Model 858 User's Manual (May 1999)
- Imagenex Model 855 User's Manual (Nov. 1991)
- Imagenex Sportscan User's Manual (May 2003)
- Imagenex Sportscan Installation / Setup Manual

References Related to JW Fishers Systems

- Product News, Versatile Side-Scan Sonar: JW Fishers developed a side-scan towfish with adjustable transducers, Hydro International (Feb. 2008) http://.hydro-international.com/news/id2531-Versatile Sidescan Sonar.html
- Side Scan PC Operation Manual: SSS-100k PC, SSS-600K PC, SSS-100k/600K PC Side Scan Sonar Operation and Maintenance Manual, JW Fishers MFG Inc.

References Related to Klein Associates Systems

- Clausner, James E. and Joan Pope, Side-Scan Sonar Applications For Evaluating Coastal Structures, Technical Report CERC-88-16, US Army Corps of Engineers, Department of the Army (Nov. 1988)
- Klein Associates Brochure: Hydroscan for Pipeline Survey
- Klein Associates Brochure: Klein Smartfish, A Proven Platform for Deep Tow Applications
- Klein Associates Brochure: System 3900 Dual-Frequency Side Scan Sonar for Search and Recovery (Nov. 2008)

- Klein Associates Product Catalog / Brochure: HYDROSCAN Klein Side Scan Sonar and Sub-Bottom Profiling Systems (1983)
- Klein Associates Product Catalog Supplement: *Sub-Bottom Profiler & Microprofiler* (Supplement to *HYDROSCAN* catalog)
- Klein Hydroscan Applications Bulletin: *Oil and Gas Pipeline Routing, Laying and Inspection* (Jan. 1988)
- Kucharski, William M., and Clausner, James E., *Underwater Inspection of Coastal Structures Using Commercially Available Sonars*, Technical Report REMR-CO-11, US Army Corps of Engineers, Department of the Army (Feb. 1990)
- Mazel, Charles H., *Inspection of Surfaces by Side Scan Sonar*, Proceedings of the Remotely Operated Vehicles Conference and Exposition (1984)
- Product Survey Side Scan Sonar, Hydro International pp. 36-39 (Apr. 2004)
- Side Scan Sonar Record Interpretation, Side Scan Sonar Training Manual, Klein Associates, Inc. (1985)

References Related to Raymarine Marine Electronics Systems

• Raymarine E-Series Networked Display Reference Manual (Mar. 2006)

References Related to SIMRAD / Kongsberg Systems

- EA 400/600 Sidescan: Echo Sounder with Combined Sidescan and Depth Soundings, Konigsberg Maritime AS (Nov. 2005)
- SIMRAD EA 500 Hydrographic Echo Sounder Product Specification (Sept. 1993)
- SIMRAD EK 500 Fishery Research Echo Sounder Installation Manual (Jun. 2006)
- SIMRAD EK 500 Fishery Research Echo Sounder Operator Manual (May 1996)
- SIMRAD Kongsberg Application Note, *Survey of Standing Timber in Flooded Reservoirs*, Kongsberg Mesotech Ltd. (Sept. 26, 2007)
- SIMRAD Kongsberg Application Note, *Babine Lake, BC, Bubbler Line Survey to Identify Damaged Section(s) and Missing Anchors*, Kongsberg Mesotech Ltd. (published by at least June 26, 2007)
- SIMRAD Kongsberg EM Series Multibeam Echo Sounder Operators Manual
- Kongsberg MS 1000 PC Based Sonar Processor Manual (2007)

References Related to Tucker

- 107625HR Article
- Tucker, M.J. et al., *Narrow-beam echo-ranger for fishery and geological investigations*," British Journal of Applied Physics, Vol. 12, pp. 103-110 (Mar. 1961)
- Underwater Echo Ranging Article

References Related to U.S. Navy Systems

- Avera W., et al., Multibeam Bathymetry from a Mine-Hunting Military Sonar, Report No. NRL/JA/7440-02-1010, Naval Research Laboratory and Naval Oceanographic Office (Nov. 2002)
- Barbu, Madalina, "Acoustic Seabed and Target Classification using Fractional Fourier Transform and Time-Frequency Transform Techniques" Dissertation Paper 480, University of New Orleans (2006)

- Barbu, C., et al., *AQS-20 Sonar Processing Enhancement for Bathymetry Estimation*, pp. 1-5, Presented at OCEANS Conference (2005).
- Buchanan, H.L. and Lt. Cmdr. John M. Cottingham, *Countering Mines in 2005*, Sea Technology, Vol. 41, No. 1, pp. 24-29 (Jan. 2000)
- Elmore, P.A., et al., Environmental Measurements Derived from Tactical Mine-Hunting Sonar Data, pp. 1-5, Presented at OCEANS Conference (2007)
- Elmore, P.A. et al., *Use of the AN/AQS-20A Tactical Mine-hunting System for On-scene Bathymetry Data*, Journal of Marine Systems, Vol. 78, pp. 5425-32 (Feb. 2008)
- Gallaudet, T.C., et al., Multibeam Volume Acoustic Backscatter Imagery and Reverberation Measurements in the Northeastern Gulf of Mexico, J. Acoust. Soc. Am., Vol. 112, No. 2, pp. 489-503 (Aug. 2002)
- Harris, M.M., et al., *Tow Vehicle Depth Verification*, Oceans 2002 IEEE/MTS Conference Proceedings, pp. 1199-1202 (Oct. 2002)
- Streed, C.A., et al., *AQS-20 Through-The-Sensor Environmental Data Sharing*, Proceedings of the SPIE Defense & Security Symposium (Mar. 2005).
- Taylor, W.A., et al., *Taking the Man out of the Minefield*, Sea Technology 2007, Vol. 48, No. 11, pp. 15-19 (Nov. 2007)

References Related to WESMAR Systems

- Kelly, D., *The Scoop on Scanning Sonar*, Motor Boating and Sailing, pp. 51, 70-71 (Aug. 1976)
- Sosin, M., Can Electronics Make You Almost as Smart as a Fish, Popular Mechanics, pp. 110-111 (Nov. 1976)
- WESMAR Brochure, Super High Definition Side Scan Sonar, New Color Video Display SHD 700SS
- WESMAR SHD700SS Super High Definition Side Scan Sonar Operations Manual (May 1998)
- WESMAR Side-Scan Sonar 500 Series Brochure
- WESMAR Side-Scan Sonar 500SS Brochure (Feb. 11, 1985)
- WESMAR Side-Scan Sonar 500SS Operations Manual
- WESMAR Brochure: Wesmar's New HD800 Sonar
- Wesmar Sonar Effective In Shallow-Water Operations Literature Available, Maritime Reporter and Engineering News, p. 13 (Dec. 15, 1983)
- University of Rhode Island Dissertation(s) Concerning Use of WESMAR Tilt Adjustable Tow Fish Systems\

Other References

- Atherton, Mark W., Echoes and Images, OysterInk Publications (2011)
- Blondel, P., The Handbook of Sidescan Sonar, Springer (2009)
- De Jong, C.D., Lachapelle, G., Skone, S., and Elema, I.A., *Hydrography: Series on Mathematical Geodesy and Positioning*, Delft University Press, 1st ed. (2002)
- Denny, M., Blip, Ping, and Buzz, JHU Press, 1st ed. (2007)
- Flemming, B.W., M. Klein, P.M. Denbigh, A Historical Introduction to Underwater Acoustics with Special Reference to Echo Sounding, Sub-Bottom Profiling and Side Scan

- Sonar, Recent Developments in Side Scan Sonar Techniques, ed. W.G.A. Russell-Cargill, Central Acoustics Laboratory University of Cape Town (1982)
- Hansen, R.E., *Introduction to Sonar*, Course Material to INF-GEO4310, University of Oslo (Oct. 7, 2009)
- Kaeser, A. et al., An Illustrated Guide to Low-cost, Sidescan Sonar Habitat Mapping
- Kurie, F.N.D. *Design and Construction of Crystal Transducers*, Office of Scientific Research and Development Washington D C. (1946)
- Loeser, Harrison T., Sonar Engineering Handbook, Peninsula Publishing (1992)
- Medwin, H. et al., Fundamentals of Acoustical Oceanography, Academic Press (1998)
- Miller, S.P., Selected Readings in Bathymetric Swath Mapping, Multibeam Sonar System Design, University of California Santa Barbara (Apr. 1993)
- Sherman, C. & J. Butler, *Transducers and Arrays for Underwater Sound*, Springer Sci. & Bus. Media, 1st ed. (2007)
- Stansfield, D., *High Frequency Designs, Underwater Electroacoustic Transducers: A Handbook for Users and Designers*, Bath University Press and Institute of Acoustics (1991)
- Urick, R.J., *Principles of Underwater Sound*, 3rd Edition, McGraw-Hill Book Company, 1983
- Williams, O.B., An Introduction to the Theory and Design of Sonar Transducers, Navy Postgraduate School, Monterey, California (Jun. 1985)
- Woollett, R.S., *Sonar Transducer Fundamentals*, Scientific and Engineering Studies, Naval Underwater Systems Center (1984)
- Bartlett, Tim, Side-Scanning Sonar, The Latest, But is it the Greatest? Side-scan sonar can find structure, but can it find fish, Power & Motoryacht (Jan. 2014)
- Bass, G. *New Tools for Undersea Archeology*, National Geographic, Vol. 134, pp. 403-422 (1968)
- Chesterman, W.D., Clynick, P.R., and Stride, A.H., *An Acoustic Aid to Sea Bed Survey, Acustica*, pp. 285-290 (Apr. 1958)
- Cyr, Reginald, A Review of Obstacle Avoidance/Search Sonars Suitable for Submersible Applications, Marine Tech. Soc. Journal., Vol. 20, No. 4, pp. 47-57 (Dec. 1986)
- Donovan, D.T., Stride, A.H., and Lloyd, A.J., An Acoustic Survey of the Sea Floor South of Dorset and its Geological Interpretation, Philosophical Transactions of the Royal Society of London, Series B, Biological Sciences, pp. 299-330 (Nov. 1961)
- Flemming, B.W., Side-Scan Sonar: A Practical Guide, International Hydrographic, pp. 65-92 (Jan. 1976)
- Geophysikalisches Praktikum: Side-Scan Sonar, Marine Geophysical Sciences Training, University of Kiel, Institute for Earth Sciences, Hydro-acoustic Lab (www.hydrakula.uni-kiel.de/downloads/Sidescan%20Sonar.doc)
- Hare, Robert Mason, Small-Boat Surveys in Shallow Water, pp. 71-89 (May 2008)
- Hayes, M.P., and Ho, T.Y., *Height Estimation of a Sonar Towfish from Side-Scan Imagery*, Acoustics Research Group, Department of Electrical and Electronic Engineering, University of Canterbury, Christchurch, New Zealand (Jan. 2004)
- Hersey, J. B, et al., *Sonar Uses in Oceanography*, Presented at Instrument Automation Conference and Exhibit, New York, NY (Sep. 1960)

- Hughes Clarke, J.E., Seafloor Characterization Using Keel-Mounted Sidescan: Proper Compensation for Radiometric and Geometric Distortion, Presented at Canadian Hydrographic Conference, pp. 1-18 (May 2004)
- Hydro Surveys: Side Scan Sonar Systems, *Hydro International* (2008)
- Johnston, D., Hints and Tips for Setting up the NAS Sportscan Sidescan Sonar System, Nautical Archaeology Society Imagenex SportScan Sidescan Sonar Unit – Hints and Tips v1. (Jun. 2009)
- Melvin, G., et al.; "Commercial fishing vessels, automatic acoustic logging systems and 3D data visualization"; ICES; Journal of Marine Science; Vol. 59; Issue 1; pp. 179-189 (2002)
- Morang, Andrew, Kucharski, William M., Side-Scan Investigation of Breakwaters at Calumet and Burns Harbors in Southern Lake Michigan, Oceans 86 Conference Record, pp.458-465 (Sep. 1986)
- Newman, P., Durrant-Whyte, H., *Using Sonar in Terrain-Aided Underwater Navigation*, IEEE Proceedings (May 1998)
- Noble, N., *The Telltale Sound of Depth*, Motor Boating and Sailing, pp. 23-24 (Aug. 1976)
- Pappalardo, M., *Directivity Pattern of a Linear Array Transducer in High Frequency Range*, Journal de Physique, pp. 32-34 (Nov. 1972)
- Patterson, D.R., and J. Pope, *Coastal Applications of Side Scan Sonar*, Proceedings of Coastal Structures '83 (Mar. 1983)
- Onoe, M., and Tiersten, H.F., Resonant Frequencies of Finite Piezoelectric Ceramic Vibrators with High Electromechanical Coupling, IEEE Transactions of Ultrasonics Engineering, pp. 32-39 (Jul. 1963)
- Rusby, Stuart, *A Long Range Side-Scan Sonar for Use in the Deep Sea (GLORIA PROJECT)* Int. Hydrogr. Rev., pp. 25-39 (1970)
- Rossing, Thomas D., *Sonofusion??*, ECHOES: The Newsletter of the Acoustical Society of America, Vol. 12, No. 2 (Spring 2002)
- Sargant, F., Flash Back, Boating (Jul. 1995)
- Sletten, M.N. et al., Side-Scan Angular Setup Influence In The Detection Of Posidonia Oceanica Fields (2009)
- Somers, M.L., and Stubbs, A.R., Sidescan Sonar, IEE Proceedings, pp. 243-256 (June 1984)
- Spiess, F.N., *Acoustic Imaging*, Society of Photo-optical Instrumentation Engineers' Seminar-in-Depth on Underwater Photo-optical Instrumentation Applications, pp. 107-115 (Mar. 1971)
- Stride, A.H., *A Linear Pattern on the Sea Floor and its Interpretation*, National Institute of Oceanography, Wormley, Surrey, pp. 313-318 (1959)
- Tyce, R.C., *Deep Seafloor Mapping Systems A Review*, Marine Tech. Soc. Journal., Vol. 20, No. 4, pp. 4-16 (Dec. 1986)
- Wang, H.S.C., *Amplitude Shading of Sonar Transducer Arrays*, The Journal of the Acoustical Society of America, pp. 1076-1084 (May 1975)
- Adams, J.A. et al., U.S. Patent No. 5,184,330, Multi-Beam Sonar Fish Detection Apparatus Providing Real-Time Three-Dimensional Wire-Frame Display Representation (Jun. 1991)
- Audi, Paul P. et. al., U.S. Patent No. 5,438,552, Sonar system for identifying foreign objects, (Mar. 1994)
- Bird, Jeremy, U.S. Patent No. 4,774,837, Transducer assembly for a speed measurement device, (Jan. 1987)

- Boucher, Stephen et. al., U.S. Patent No. 5,390,152, Sonar system detecting objects traversing a medium relative to vessel (Feb. 1995)
- Chiang, A.M. et al., U.S. Patent No. 6,842,401, Sonar Beamforming System (Jan. 2005)
- Cook, R.L. et al., U.S. Patent No. 3,953,828, *High Power-Wide Frequency Band Electroacoustic Transducer* (Apr. 1976)
- Delignieres, Robert, U.S. Patent No. 4,216,537, Sonar for the topographic representation of a submerged surface and underlying strata, (Aug. 1980)
- Dorsey, H.G., U.S. Patent No. 1,667,540, *Method and Apparatus for Measuring Distance* (Apr. 1928).
- Ehrlich, Harold P., U.S. Patent No. 3,907,239, Bracket for holding transducer, (Jan. 1974)
- Fatemi-Booshehri, Mostafa et. al., U.S. Patent No. 5,991,239, Confocal acoustic force generator, (Nov. 1999). Geil, F.G. et al., U.S. Patent No. 3,359,537, Transducer, (Dec. 1967)
- Gilmour, G.A. U.S. Patent No. 3,950,723, Sonar Apparatus (Feb. 1974)
- Hagemann, J., U.S. Patent No. 4,197,591, Facsimile Recording of Sonic Values of the Ocean Bottom (Aug. 1958)
- Hamada, Tokihiko et al., U.S. Patent No. 5,805,528, For searching an area (Sept. 1998)
- Havins, F.H., U.S. Patent No. 4,982,924, *Mounting Apparatus For Sonar Transducer* (Jan. 1991)
- Hicks, C.L. and J.C. Bartz, U.S. Patent No. 5,675,552, Sonar Apparatus Having a Steerable Beam (Oct. 1997)
- Hideji, M. et al., JP 4357487, *Side Looking Sonar* (Dec. 1992)
- Fischer, R.C. U.S. Patent No. 3,585,578, Side Looking Sonar Apparatus (Apr. 1969)
- Kalis, Robert M. et al., U.S. Patent No. 6,899,574, *Transducer bracket* (Aug. 2003)
- Kosalos, James et al., U.S. Patent No. 4,075,599, *Undersea geophysical exploration* (Feb. 1978)
- Kietz, H., U.S. Patent No. 3,005,973, Submarine Locating System (Feb. 1955)
- Lowrance, Darrell et al., U.S. Patent No. 4,879,697, Sonar fish finder apparatus providing split-screen display (Nov. 1989)
- Lustig, H.E. et al., U.S. Patent No. 3,144,631, Radiation Mapping System (Jan. 1962)
- Masreliez, K., U.S. Patent No. 5,838,635, *Thin Speed Transducer Sensor* (Oct. 1996)
- McBride, William E., U.S. Patent No. 4,456,210, Transducer mounting (Aug. 1982)
- Morgera, S.D., U.S. Patent No. 4,207,620, Oceanographic Mapping System (Jun. 1980)
- Nelkin, A. et al., U.S. Patent No. 3,304,532, Side-Looking Sonar System (Apr. 1965)
- Nishimori, Tasushi et al., U.S. Patent No. 5,561,641, *Underwater detection system for determining carrier frequencies of signals arriving from a wide area* (Feb. 1993)
- Nishimori, Yasushi et al., U.S. Patent No. 7,215,599, *Ultrasonic transmitter, ultrasonic transceiver and sonar apparatus* (Nov. 2003)
- Richard, Joseph D., U.S. Patent No. 4,538,249, Ultrasonic doppler fish detector (Sep. 1982)
- Rowe, L.M. et al., U.S. Patent 4,413,331, Broad Beam Transducer (Apr. 1976)
- Rowe, L.M., U.S. Patent No. 5,596,550, Low Cost Shading for Wide Sonar Beams (Jun. 1995)
- Sato, Y., Japanese Patent Model Application No. 54-054365, *Mounting Device of Underwater Search Echo Sounder Transducer to Non-Metal Vessel Hull* (Sept. 22, 1977)
- Scanlon, William J., U.S. Patent No. 6,421,301, *Transducer Shield* (Jan. 2001)

- Schroeder, U.S. Patent No. 7,236,427, Vessel Hull Transducer Modular Mounting System (Jun. 2007)
- Shah, Vimal V. et al., U.S. Patent No. 7,339,494, Acoustic telemetry transceiver (Jul. 2004)
- Shell, Richard, U.S. Patent No. 6,449,215, *Three-dimensional imaging system for sonar system* (Oct. 2001)
- Stembridge, W.F. et al., U.S. Patent No. 4,347,591, *Imaging Sonar System and Method* (Aug. 1982)
- Thompson, Roger L. et al., U.S. Patent No. 7,542,376, Vessel-mountable sonar systems (Jul. 2007)
- Wilcox, M.H. et al., U.S. Patent No. 5,142,502, *Microcomputer-based Side Scanning Sonar System* (Aug. 1992)
- Ziese, Rolf, U.S. Patent No. 4,611,313, Method for acoustically surveying the surface contours of the bottom of a body of water (Sep. 1986)
- Zimmerman, Matthew Jason et al., U.S. Patent No. 7,355,924, 3-D forward looking sonar with fixed frame of reference for navigation (Apr. 2006)
- Benthien, George W, and Hobbs, Stephen, Technical Report: *Modeling of Sonar Transducers and Arrays* (Sep. 2005)
- Barnum, S.R. CDR, Descriptive Report to Accompany Hydrographic Survey Side, Scan Sonar / Multibeam Survey of Portsmouth Harbor, Survey No. H11014 (2001)
- Clausner, J. Coastal Engineering Technical Note: Side Scan Sonar for Inspecting Coastal Structures, CETN-III-16, U.S. Army Engineer Waterways Experiment Station (Nov. 1983)
- Craig, J.D., *Engineering and Design: Evaluation and Repair of Concrete Structures*, Manual No. 1110-2-2002, US Army Corps of Engineers, Department of the Army (Jun. 1995)
- DeRoos, B.G., et al., *Technical Survey and Evaluation of Underwater Sensors and Remotely Operated Vehicles*, Report No. CG-D-21-93, US Coast Guard Research and Development Center (May 1993)
- Harris, R.V. et al., Evaluation of Computer-Based Ultrasonic Inservice Inspection Systems (1994)
- Montgomery, E.T. et al., Documentation of the U.S. Geological Survey Oceanographic Time-Series Measurement Database, Images Page RE Imagenex Sonars, U.S. Geological Survey Open-File Report 2007-1194 (Feb. 2009)
- McMillan, Ken, The Application of Sector Scanning Sonar Technology to the Mapping of Granular Resources on the Beaufort Shelf using the Sea-Ice as a Survey Platform, McQuest Marine Research and Development Company, Report Prepared Geological Survey of Canada Atlantic (Mar. 1997)
- Ronhovde, A., *High Resolution Beamforming of Simrad EM3000 Bathymetric Multibeam Sonar Data, Cand Scient thesis*, University of Oslo, Norway (Oct. 1999)
- Speiss, F.N., and Tyce, R.C., Marine Physical Laboratory Deep Tow Instrumentation System, Deep Submergence Systems Project and Office of Naval Research, Report No. MPL-U-69/72 (Mar. 1973)
- Safety of Life at Sea (SOLAS) Chapter V Safety of Navigation (Jan. 2002)
- Williams, S. Jeffress, Use of High Resolution Seismic Reflection and Side-Scan Sonar Equipment for Offshore Surveys, CETA 82-5, U.S. Army Corps of Engineers Coastal Engineering Research Center (Nov. 1982)
- Chesapeake Technology: SonarWiz Software User Manual.

- EdgeTech 2000-CSS Integrated Coastal System Subscan Brochure
- HyPack Inc,: HyPack Software User Manual
- Kevin Hughes Transit Sonar Product Literature and Technical Specification (Mar. 1986)
- L-3 Communications SeaBeam Instruments Technical Reference: *Multibeam Sonar Theory of Operation* (2000)
- L-3 Klein Associates: SonarPro Software Manual.
- Neptune Sonar Systems Webpage: Transducer Products: Side Scan, Model T36, T62, T63, T403 (Dec. 2003)
- Oceanic Imaging Consultants (OIC) Inc.: GeoDAS User Manual
- OPS b.v..: Oinsy User Manual
- Sidescan Interfacing (Aug. 31, 2009)
- Tritech Technical Data Sheet: ROV/AUV Side Scan Sea King Side Scan Sonar
- Tritech Technical Data Sheet: Starfish 450H Hull-Mounted Sidescan System, Operating Specifications
- Tritech Manual: Starfish Hull Mount Sonar System User Guide
- Triton Elics Intl.: ISIS Sonar® User's Manual, Vols. 1 and 2 (Jun. 2004) Vernitron Product Catalog: *Modern Piezoelectric Ceramics, Custom Material Product Catalog*
- Ocean Explorer Timeline, http://oceanexplorer.noaa.gov/history/timeline/timeline.html
- Sounding Pole to Sea Beam, www.history.noaa.gov/stories_tales/poletobeam2.html
- Maguire, Brian T., Downscan Imaging Sonar, U.S. Patent No. 8,305,840 (Published: Jan. 20, 2011)
- Coleman, Aaron R. et al., *Linear and Circular Downscan Imaging Sonar*, U.S. Patent No. 8,300,499 (Published: Jan. 20, 2011)
- Hossack, John A. et al., *Transmit Beamformer with Frequency Dependent Focus*, U.S. Patent No. 5,696,737 (Issued Dec. 9, 1997)
- Inouchi, Mitsuhiro, U.S. Patent No. 6,418,080, *Underwater Detection Apparatus* (Issued: Jul. 9, 2002)
- Gunderson, Donald R. et al., *Rockfish Investigations off the Coast of Washington and Oregon*, Fisheries Research Institute (Dec. 1981)
- Loggins, Chester D. et al., *High Frequency Commercial Sonars: A Survey of Performance Capabilities* (1990)
- Key, William H., Side Scan Sonar Technology (2000)
- Ellison, Ben, Panbo, Garmin GSD 26, serious sonar w/ CHIRP (February 15, 2011)
- Ellison, Ben, Panbo, Simrad BSM-2, Broadband Broadband sonar (September 30, 2010)
- Innomar Products Webpage: System Variants 'SES Side Scan Option (Dec. 2003)
- Lowrance Elite 5 DSI Manual (2010)
- Lowrance Elite 5 DSI, Elite 4 DSI & Mark 4 DSI Manual (2011)
- Traditional Sonar and DSI Sonar Installation (2011)
- Navico StructureScanTM Sonar, Sydney Boat Show (2009)

Physical Devices, Systems, and Embodiments

- WESMAR SHD 700SS Tilt Adjustable Tow Fish System.
- WESMAR Side-Scan Sonar 500SS System
- Humminbird 1100 Series Systems (2007)

- Humminbird 997c SI System (2008)
- Humminbird 570 DI System (2011)
- Kongsberg MS 1000 System (2007)
- Garmin GSD 26 System (2011)
- Simrad BSM-2 System (2010)
- Imagenex Sportscan
- Imagenex 855
- Imagenex 858
- Lowrance HDS Gen3; HDS Gen2, HDS Gen2 Touch, HDS Gen2 Touch Combo; HDS Gen1; Hook 4, 4x, 5, 5x, 7, 7x, 9; Elite Ti 5, 7; Elite 9; Elite 7; Elite/Mark-5; Elite/Mark-4; Elite-9 CHIRP, Elite-9x CHIRP, Elite-7 CHIRP, Elite-5 CHIRP Gold, Elite-7x CHIRP, Elite-5 CHIRP, Elite-5x CHIRP, Elite-4 CHIRP, Elite-4x CHIRP, Mark-4 CHIRP; Elite 5 DSI, Elite 4 DSI, Mark 4 DSI NSS16 evo2, NSS 12 evo2, NSS9 evo2, NSS7 evo2; GO7 xse; GO5 XSE; Vulcan 5, 7, 7fs; HDI Transducer; TotalScan Transducer

Fourth Defense (Unenforceability)

- 7. On information and belief, the '022 and '168 Patents are unenforceable under the doctrine of inequitable conduct due to the inequitable conduct of Navico representatives and/or agents substantively involved in the preparation or prosecution of the application that issued as the '022 Patent, including Navico's counsel at Alston & Bird LLP (in this section, collectively "Navico").
- 8. This inequitable conduct renders the '022 Patent itself unenforceable and also renders unenforceable any of Navico's related marine sonar patents directed to downscan sonar technology, including at least the patents that were pending at the time Navico became aware of the intentionally withheld information described below, and specifically including the '168 Patent.
- 9. No later than during prosecution of the '022 Patent, Navico became aware of the following information:
 - The Kongsberg MS 1000 PC Based Sonar Processor Manual ("MS 1000 Manual") and the information contained therein. A copy of the MS 1000 Manual is attached to this Answer as Exhibit A.

- The Kongsberg Application Note, Survey of Standing Timber in Flooded Reservoirs ("Standing Timber Application Note") and the information contained therein. A copy of the Standing Timber Application Note is attached to this Answer as Exhibit B.
- The Kongsberg Application Note, Bubbler Line Survey to Identify Damaged Sections and Missing Anchors ("Bubbler Line Application Note") and the information contained therein. A copy of the Bubbler Line Application Note is attached to this Answer as **Exhibit** C, and it is also available the Internet on at http://web.archive.org/web/20070626162909/http://www.kongsbergmesotech.com/index.cfm?fuseaction=DocumentCenter.viewPublicSpecificCategory&cat Name=Application Notes.
- 10. As explained in the following paragraphs, Garmin provided copies of the withheld references and expert reports discussing the references to Navico during at least October 2015, more than two months before the United States Patent and Trademark Office ("Patent Office") issued the '022 Patent on December 29, 2015. Garmin provided this information as part of Garmin's defense in *Navico Inc. and Navico Holding AS v. Garmin Int'l*, *Inc. and Garmin USA*, *Inc.*, Case No. 14-CV-0303-CVE-TLW, which is currently pending in the Northern District of Oklahoma (the "Oklahoma Action").
- 11. The withheld references themselves and the information they contain provide material and non-cumulative information that Navico could and should have disclosed to the Patent Office during prosecution of the '022 Patent. Each reference establishes, by itself or in combination with other information, a prima facie case of unpatentability of one or more claims of the '022 Patent. Navico's intentional failure to disclose this information with deceptive intent renders the '022 Patent, and at least Navico's entire portfolio of marine sonar

patents relating to "downscan" technology that were pending at the time Navico received this information, unenforceable.

- 22. Specifically, and as discussed below, Navico, including its counsel Alston & Bird LLP, withheld material information from the Patent Office during the prosecution for the '022 Patent regarding the MS 1000 Manual and the Kongsberg Application Notes. Navico learned of such material information before the '022 Patent was issued from the discovery and expert reports in the Oklahoma Action. But, Navico did not disclose this material information, including the MS 1000 Manual and the Kongsberg Application Notes, to the Patent Office. But for Navico withholding such material information, the Patent Office would not have issued the '022 Patent, including at least the asserted claims.
- 13. Upon information and belief, Navico, including its counsel at Alston & Bird LLP, was acting with specific intent to deceive in withholding material information within its possession during the prosecution for the '022 Patent. That is the single most reasonable inference to be draw from the circumstances.
- 14. Garmin's investigation into this matter is ongoing, and Garmin reserves the right to amend or supplement this defense as additional information comes to light.

A. During the Prosecution of the '022 Patent, Navico Learned of Material Information from the Oklahoma Action

- 15. Navico filed the Oklahoma Action on June 4, 2014, and the discovery deadline in the Oklahoma Action was October 30, 2015.
- 16. On **October 5, 2015**, in the Oklahoma Action, Garmin served its Initial Expert Report of Lloyd C. Huff Regarding the Invalidity of U.S. Patents Nos. 8,305,840, 8,605,550, and 8,300,499 (the "Huff Report"). On **October 19, 2015**, Garmin served the Investigative and Forensic Analysis Report by the Mintz Group and its Director of Digital

Forensics, Curtis W. Rose, regarding the digital files containing the Kongsberg Application Notes (the "Rose Report"). Garmin also produced the withheld references. The Huff Report explained why the withheld references rendered obvious the '840 and '499 Patents. The Rose Report explained why they are prior art to the '840 and '499 Patents. That the withheld references are prior art to the '499 Patent also makes them prior art to the '022 Patent because the '022 Patent is a continuation based on the same application as the '499 Patent.

17. In the Huff Report, Dr. Huff cited to the Kongsberg Application Notes to explain that the '840 and '499 Patents were invalid as obvious. Dr. Huff explained, on pages 9 and 46 of his Report:

The Kongsberg Projects took place from 2004 to 2006 and further showed that narrow fan-shaped beam directed directly below a watercraft perpendicular to a forward direction of travel of the watercraft could be useful for profiling the underwater environment. In 2004 and 2006, Mark Atherton pointed a linear transducer downward to study objects in the water column. He utilized a linear transducer in the same housing as a conical transducer that was mounted to the side of a boat to study trees and buoy lines in the water column below the boat. Mr. Atherton observed that "[a]lthough a wide fan beam is not ideal for gathering precise depth measurements, it can be used for application-specific projects, in particular, those where targets in the water column need to be detected."

Mark Atherton is a Kongsberg employee who worked on the Application Notes.

18. The Rose Report describes forensic analysis performed on the digital files associated with the Kongsberg Application Notes to determine their publication dates. Mr. Rose concluded that the document files associated with the Kongsberg Application Notes were created from April 21, 2005 through September 26, 2007. These dates are before the priority date for

any of the patents at issue in the Oklahoma Action or for the '022 Patent, and thus the Kongsberg Application Notes are prior art to the '022 Patent.

B. Navico Acted With Deceptive Intent in Withholding Material Information During the Prosecution of the '022 Patent

- 19. During the prosecution of the '022 Patent, Navico was aware of its duty to disclose material prior art under 37 C.F.R. § 1.56.
- 20. During the prosecution for the '022 Patent, Navico, including its counsel Alston & Bird LLP, breached its duty of candor and good faith to the Patent Office by failing to disclose information about the MS 1000 Manual and the Kongsberg Application Notes that was inconsistent with and/or refuted the statements that Navico made in support of confirmation/allowability of its claims during the prosecution of the '840, '499, and '022 Patents. The withheld information was material to the patentability of the '022 Patent, as discussed below.
- 21. Even though Navico knew of information material to the claims of the '022 Patent at least by **October 5, 2015**, as discussed above, Navico withheld such material information during the prosecution of the '022 Patent. The prosecution period for the '022 Patent began on July 14, 2009, the filing date of the parent application for the '022 Patent. The prosecution period for the '022 Patent ended on December 29, 2016, the issue date of the '022 Patent.
- 22. On **August 7, 2015**, the Patent Examiner for the '022 Patent, Mr. James Hulka, issued the first Office Action, rejecting all claims for the '022 Patent for non-statutory obviousness-type double patenting over U.S. Patent No. 8,305,840 ("the '840 Patent"), which is another of the patents Navico has asserted against Garmin in the Oklahoma Action. Mr. Hulka was also the Assistant Examiner for the '840 Patent.

- 23. On **September 17, 2015**, Navico filed a terminal disclaimer against the '840 Patent. Navico used this terminal disclaimer to eliminate the double patenting issue by agreeing that the '022 Patent would expire with the '840 Patent. Navico thus effectively conceded that the claimed subject matter of the '022 Patent would have been obvious in view of the '840 Patent.
- 24. On **October 9, 2016**, Navico submitted an Information Disclosure Statement to the Patent Office, disclosing an unrelated patent: Ferre et al., U.S. Patent No. 4,096,484 (the "Ferre Reference"), during prosecution of the '168 Patent. This shows that Navico was active in submitting Information Disclosure Statements during the period after it received the withheld references from Garmin. Likewise, during prosecution of the '022 Patent, Navico submitted a total of thirteen Information Disclosure Statements to the Patent Office, listing hundreds of prior art references. Navico's submissions with its Information Disclosure Statements were so voluminous that the Examiner requested Navico to identify the references that it considered particularly pertinent. Navico's failure to submit the withheld references despite submitting hundreds of other references is further evidence that Navico's failure to submit the withheld references was deceptively intentional, as described below.
- 25. On **October 16, 2015**, Garmin advised Navico that Mr. Mark Atherton, the Kongsberg employee who worked on the withheld *Standing Timber* and *Bubbler Line* Application Notes, was available for deposition on October 27, 2015. On **October 21, 2015**, an attorney representing Kongsberg cancelled Mr. Atherton's deposition. As explained below, United States Magistrate Judge T. Lane Wilson of the Northern District of Oklahoma later concluded that these circumstances suggested that the deposition was cancelled due to interference by Navico. Judge Wilson stated in his order that there was "ample circumstantial"

evidence that plaintiffs (as opposed to plaintiffs' litigation counsel) intervened in a way that thwarted defendants' effort to obtain Atherton's testimony voluntarily, resulting in a violation of Rule 1. Moreover, plaintiffs' litigation counsel, when given the opportunity to dispel this conclusion, did not."

- 26. Also on **October 21, 2015**, Navico's counsel—who represents Navico in the Oklahoma Action and this action, and who represented Navico during prosecution of all of the patents Navico has asserted in the Oklahoma Action and this action, including the '022 Patent—deposed Garmin's invalidity expert Dr. Huff. Navico's counsel asked questions about each of the withheld references.
- On October 27, 2015, the Patent Office issued the Notice of Allowance for the '022 Patent. That did not end prosecution on the '022 Patent, however, and it did not end Navico's obligation to disclose material information to the Patent Office. Navico made amendments to the specification on November 19, 2015 and fixed typographical errors in the listed prior art on November 23, 2015. The Patent Office issued the '022 Patent on December 29, 2015.
- 28. Navico could have disclosed the withheld references to the Patent Office at any time before the '022 Patent's issue date of December 29, 2015, but Navico failed to do so. On information and belief, Navico appreciated the materiality of the withheld references to the claims of the '022 Patent, and yet Navico deliberately withheld the references so that the Patent Office would issue the '022 Patent without the Examiner having had an opportunity to consider them.
- 29. Navico breached its duty to disclose material prior art under 37 C.F.R. § 1.56 by failing to disclose the withheld references. As shown by the circumstantial evidence

described above and the analysis of the specific disclosures of the withheld references provided below, the withheld information is material to the patentability of the '022 Patent. Moreover, on information and belief, Navico appreciated the materiality of the withheld information to the invention disclosed in the '022 Patent.

- 30. During the period between the '022 Notice of Allowance dated October 27, 2015, and the '022 issuance on December 29, 2015, there was extensive litigation in the Oklahoma Action regarding the Rose Report and Mr. Atherton's deposition—each of which concerns the withheld references—that provides further evidence of Navico's deceptive intent and the materiality of the withheld references.
- 31. On **October 29, 2015**, Garmin filed a Motion for an Order Issuing Letters Rogatory requesting the assistance of Courts of Canada to obtain Mr. Atherton's testimony. On **October 30, 2015**, Garmin filed a Motion for Leave to have the Rose Report considered as affirmative evidence and to serve a supplemental report. On **November 23, 2015**, Navico filed a Motion to Strike the Rose Report.
- Order on the Motion for an Order Issuing Letters Rogatory. Judge Wilson stated that "the record as detailed [in the Opinion] provides ample circumstantial evidence that plaintiffs (as opposed to plaintiffs' litigation counsel) intervened in a way that thwarted defendants' effort to obtain Atherton's testimony voluntarily, resulting in a violation of Rule 1. Moreover, plaintiffs' litigation counsel, when given the opportunity to dispel this conclusion, did not." Judge Wilson continued that "[p]laintiffs' counsel's lack of willingness to address the question or to identify even the nature of the discussions between the two companies leads the Court to believe that plaintiffs may have intervened or interfered with defendants' efforts to depose Atherton."

- 33. Even after Judge Wilson issued this Opinion and Order on November 30, 2015, Navico still had more than four weeks before the '022 Patent issued on December 29, 2015 to submit the withheld references to the Patent Office for consideration. Navico's persistence in withholding the references, even after Judge Wilson had issued an Opinion and Order calling Navico's good faith and compliance with the rules into question, is further evidence of Navico's deceptive intent and the materiality of the withheld references.
- 34. In the November 30, 2015 Opinion and Order, Judge Wilson ordered Navico "to submit *in camera* all written communications (including all electronic communications as emails, texts, . . .) between (1) them, or anyone acting on their behalf (including in-house counsel), and (2) Kongsberg (or its affiliated entities, or anyone acting on its behalf (including in-house counsel), with respect to the deposition of Mark Atherton." Judge Wilson also ordered Navico "to provide an affidavit or declaration detailing all verbal communications" between Navico and Kongsberg regarding Mr. Atherton's deposition.
- 35. On **December 7, 2015**, after having reviewed Navico's *in camera* submission, Judge Wilson granted Garmin's motion for Letters Rogatory.
- 36. On information and belief, Navico acted with specific intent to deceive in withholding material prior art to the Patent Office during prosecution. That is the single most reasonable inference from the circumstances.
- 37. During the Oklahoma Action and before the Patent Office issued the Notice of Allowance for the '022 Patent on October 27, 2015, Garmin served on Navico the Huff Report, the Rose Report, the Kongsberg Application Notes and the MS1000 Manual, and Navico took Dr. Huff's deposition on the Kongsberg Application Notes and MS1000 Manual.

- 38. Navico could have informed the Patent Office of the withheld references. Navico submitted thirteen Information Disclosure Statements, listing hundreds of references, during prosecution of the '022 Patent. The fact that Navico failed to disclose the withheld references after having disclosed so many others, and after having been presented with and investigating the withheld references during the Oklahoma Action, is evidence of Navico's deceptive intent to withhold them.
- 39. Prior to the '022 Patent's issuance on December 29, 2015, there was extensive motion practice in the Oklahoma Action regarding the Kongsberg Application Notes, including an Opinion and Order by Judge Wilson finding "ample circumstantial evidence that plaintiffs (as opposed to plaintiffs' litigation counsel) intervened in a way that thwarted defendants' effort to obtain Atherton's testimony voluntarily, resulting in a violation of Rule 1. Moreover, plaintiffs' litigation counsel, when given the opportunity to dispel this conclusion, did not."
- 40. On information and belief, Navico actively obstructed the deposition of Mr. Atherton on the withheld references. Navico's obstruction of the Atherton deposition is evidence of Navico's intent to avoid discovery of information fatal to Navico's marine patent portfolio including the '022 Patent, and of the materiality of the withheld references.

C. The Withheld References Are Material to the '022 Patent Because They Establish a Prima Facie Case of Unpatentability of the Claims of the '022 Patent

41. The Patent Office regulations at 37 C.F.R. § 1.56 state: "Patentees and their agents have a duty of candor and good faith in dealing with the Patent Office, which includes the duty of disclose all known information material to patentability. Information is material to patentability when it is not cumulative to information already of record in the patent application. A prior art reference is material when it establishes, by itself or in combination with

other information, a prima facie case of unpatentability of a claim; or it refutes, or is inconsistent with, an argument the applicant made during the prosecution of the patent."

- 42. The Patent Office regulations at 37 C.F.R. § 1.56 further state: "A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability."
- 43. For the following reasons, the Kongsberg Application Notes and the MS1000 Manual are material to the patentability of the '022 Patent because they are not cumulative to information already of record in the patent application and they establish a prima facie case of unpatentability of the claims of the '022 Patent. The following analysis focuses specifically on claim 1 of the '022 Patent as representative.

44. Claim 1 of the '022 Patent recites:

A sonar apparatus comprising:

- a sonar transducer assembly for imaging an underwater environment beneath a watercraft, the sonar transducer assembly comprising:
- a housing mountable to the watercraft;
- a linear downscan transducer element positioned within the housing, the linear downscan transducer element having a substantially rectangular shape configured to produce a fan-shaped sonar beam having a relatively narrow beamwidth in a direction parallel to a longitudinal length of the linear downscan transducer element and a relatively wide beamwidth in a direction perpendicular to the

longitudinal length of the transducer element, the linear downscan transducer element being positioned with the longitudinal length thereof extending in a fore-to-aft direction of the housing, wherein the linear downscan transducer element is positioned within the housing to project fan-shaped sonar beams directly beneath the watercraft; and a second downscan transducer element positioned within the housing, the second downscan transducer element being configured to produce a generally conical beam that is wider than the fan-shaped sonar beam in a direction parallel to a

longitudinal length of the linear downscan transducer element, wherein the second downscan transducer element is positioned within the housing to project conical

beams directly beneath the watercraft.

45. The MS 1000 Manual establishes a prima facie case of unpatentability of claim 1 of the '022 Patent. The MS1000 Manual discloses a "sonar apparatus" having "a sonar transducer assembly for imaging an underwater environment beneath a watercraft," including "a housing mountable to the watercraft" and the claimed "linear downscan transducer element" and "second [conical] transducer element." The MS 1000 Manual specifically discloses a sonar head, including a linear transducer and a conical transducer, and states on page 18 that the sonar head can be "mounted on the vessel vertically or horizontally" and set to "down looking mode" for studying the sea bottom. The MS1000 Manual further provides, on page 109, an example of a sonar head installation "where the orientation of the sonar head is such that the zero angle beam direction is downwards." The cover of the MS 1000 Manual displays the different compatible transducers. Three of the transducers shown on the cover are linear transducer elements with a rectangular shape, and one of the transducers shown has both a linear transducer

element with a rectangular shape together with a second transducer element that is circular in shape to produce a generally conical beam.

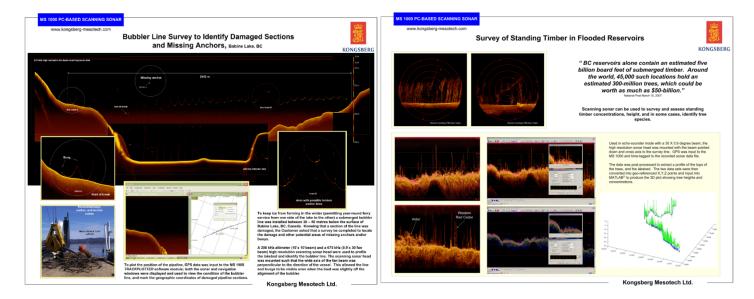
- 46. The Standing Timber Application Note establishes a prima facie case of unpatentability of claim 1 of the '022 Patent. The Standing Timber Application Note discloses a "sonar apparatus" having "a sonar transducer assembly for imaging an underwater environment beneath a watercraft," including "a housing mountable to the watercraft" and the claimed "linear downscan transducer element" and "second [conical] transducer element." The purpose of the Standing Timber Application Note was to survey and assess the bottom of the flooded reservoirs with a downwardly pointed sonar head mounted to the vessel. It states that that the images shown in the Application Note were obtained "in echo-sounder mode with a 30 X 0.9 degree beam, the high resolution sonar head was mounted with the beam pointed down and cross axis to the survey line." The dimensions of this beam show that it was produced with a linear downscan transducer element. Garmin's expert Dr. Huff stated on pages 9 and 46 of his report in the Oklahoma Action, which Navico received and deposed Dr. Huff on in October 2015, that Mr. Atherton "utilized a linear transducer in the same housing as a conical transducer that was mounted to the side of a boat to study trees and buoy lines in the water column below the boat" during the Kongsberg Projects. The Standing Timber Application Note was a part of the Kongsberg Projects.
- 47. The *Bubbler Line* Application Note establishes a prima facie case of unpatentability of claim 1 of the '022 Patent. The *Bubbler Line* Application Note discloses a "sonar apparatus" having "a sonar transducer assembly for imaging an underwater environment beneath a watercraft," including "a housing mountable to the watercraft" and the claimed "linear downscan transducer element" and "second [conical] transducer element." This Application

Note describes a survey of Babine Lake with the Kongsberg MS1000 sonar transducer assembly with a downwardly pointed sonar head. Garmin's expert Dr. Huff stated on pages 9 and 46 of his report in the Oklahoma Action, which Navico received and deposed Dr. Huff on in October 2015, that Mr. Atherton "utilized a linear transducer in the same housing as a conical transducer that was mounted to the side of a boat to study trees and buoy lines in the water column below the boat" during the Kongsberg Projects. The *Bubbler Line* Application Note was a part of the Kongsberg Projects.

- 48. The withheld references also establish a prima facie case of unpatentability because they, either alone or in combination with other references, render obvious claim 1 and the other claims of the '022 Patent. The report of Garmin's expert Dr. Huff in the Oklahoma Action details numerous reasons why the patents Navico asserted in that action are invalid for obviousness, including reasons for modifying the prior art or combining prior art references to achieve the inventions claimed in those patents. This is particularly relevant here because, as explained above, Navico has filed a terminal disclaimer for the '022 Patent over the '840 Patent to overcome an obviousness-type double patenting rejection, thus effectively acknowledging that the claims of the '022 Patent are not patentably distinct from the claims of the '840 Patent and therefore that the same reasons why the '840 Patent is invalid, including its invalidity in view of the withheld references, also apply to the '022 Patent.
 - E. The Withheld References Contain Vivid Downscan Sonar Images,
 Contradicting Navico's Statements To The Patent Office And This Court
 That It Was Navico's Alleged Innovation That Made Such Images Possible,
 And Thus Providing Further Evidence That Navico Intentionally Withheld
 The References From The Patent Office With Deceptive Intent And That
 The References Were Material
- 49. Navico's Complaint in this action asserts, in paragraph 24, that Navico designed downscan imaging "to generate near picture-perfect images of structure, fish and

bottom contours located directly beneath the boat." Likewise, the specification of the '022 Patent states in column 3, beginning at line 9, that "embodiments of the present invention employ a linear transducer, directed downward to receive high quality images relative to the water column and bottom features directly beneath the linear transducer and the vessel on which the linear transducer is employed."

50. However, the withheld Application Notes show that vivid downscan sonar images were present and achievable in the prior art. Both Application Notes show the "near picture-perfect" downscan images that Navico has said were absent from the prior art.



- 51. On information and belief, Navico intentionally withheld the Application Notes during prosecution of the '022 Patent with deceptive intent so that the Examiner would be unaware of the vivid downscan sonar images available in the prior art. The Application Notes are material because they refute and contradict Navico's argument that it was Navico's innovation that made such images possible.
- 52. The failure of Navico, including its counsel Alston & Bird LLP, to disclose its knowledge of the Kongsberg Application Notes was a violation of 37 C.F.R. § 1.56,

which requires that material information to patentability be disclosed during a patent's prosecution.

- 53. A reasonable examiner would have considered the withheld information material to patentability of the claims of the '022 Patent because such information refuted and was inconsistent with the positions Navico took during the prosecution of the '840, '499, and '022 Patents.
- 54. But for Navico withholding such material information, the Patent Office would not have allowed the patentability of the '022 Patent, including at least the asserted claims.
- 55. The Asserted Patents are unenforceable because of the inequitable conduct of Navico in withholding material information within its possession with deceptive intent during the prosecution of the '022 Patent.

Fifth Defense (Prosecution History Estoppel and/or Prosecution Disclaimer)

56. Navico's claims are barred in whole or in part by the doctrines of prosecution history estoppel and/or prosecution disclaimer because of admissions, amendments, arguments, and statements made to the United States Patent and Trademark Office during prosecution of the applications leading to, or related to, the issuance of the '022 and '168 Patents.

Sixth Defense (No Entitlement to Injunctive Relief)

57. Navico is not entitled to injunctive relief against Garmin under the principles of equity applicable to actions for patent infringement by virtue of 35 U.S.C. § 283. Garmin has not infringed and is not infringing any valid claim of the Asserted Patents. Further, any purported injury to Navico is not immediate and not irreparable, and Navico would have an

adequate remedy at law. In addition, the public interest and the balance of hardships disfavor an injunction under the circumstances here.

Seventh Defense (Limited Damages)

58. Damages to Navico, if any, are limited by 35 U.S.C. §§ 286 and 287.

Eighth Defense (No Costs)

59. Navico is barred from recovering costs associated with this action by 35 U.S.C. § 288.

Ninth Defense (No Willful Infringement)

60. Any alleged infringement by Garmin could not be willful under Navico's allegations because Garmin has not and does not infringe the Asserted Patents and because Garmin lacks any intent to infringe or cause infringement.

Tenth Defense (Double Patenting)

61. On information and belief, one or more of the asserted claims of the Asserted Patents are unpatentable on the grounds of statutory or nonstatutory obviousness-type double patenting.

Eleventh Defense (No False Advertising)

62. Garmin has not committed any acts of false advertising.

Twelfth Defense (No Enhanced Damages)

63. Garmin has not committed willful false advertising, and Garmin is not subject to the requested triple damages, because Garmin has not committed any acts of false advertising, because Garmin lacked any intent to advertise falsely, and because the principles of equity do not justify such damages here.

DEMAND FOR A JURY TRIAL

64. Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Garmin hereby demands a trial by jury on all issues so triable.

PRAYER FOR RELIEF

WHEREFORE, Garmin prays for judgment as follows on the Complaint:

- A. That the Complaint be dismissed with prejudice and that Navico take nothing;
- B. That judgment be entered in favor of Garmin against Navico on the Complaint;
- C. For entry of judgment that the Asserted Patents are invalid and not infringed by Garmin;
- D. That the case be declared an exceptional case;
- E. That Navico be required to pay Garmin's costs of suit;
- F. That Navico be required to pay Garmin's attorneys' fees pursuant to 35 U.S.C. § 285 and/or 15 U.S.C. § 1117(a); and,
- G. That Garmin be awarded such other and further relief as the Court may deem just and proper.

Dated: December 2, 2016

Respectfully submitted,

/s/ Nicholas Groombridge by permission ALF

Nicholas Groombridge
LEAD ATTORNEY
Jennifer H. Wu
Jennifer D. Cieluch
PAUL, WEISS, RIFKIND,
WHARTON & GARRISON LLP
1285 Avenue of the Americas
New York, New York 10019
(212) 373-3000 (telephone)
(212) 757-3990 (facsimile)
ngroombridge@paulweiss.com
jwu@paulweiss.com
jcieluch@paulweiss.com

David J. Ball
David K. Stark
PAUL, WEISS, RIFKIND,
WHARTON & GARRISON LLP
2001 K Street, NW
Washington, DC 20006
(202) 223-7300 (telephone)
(202) 223-7420 (facsimile)
dball@paulweiss.com
dstark@paulweiss.com

T. John Ward, Jr.
Texas State Bar No. 00794818
Claire Abernathy Henry
Texas State Bar No. 24053063
Andrea L. Fair
Texas State Bar No. 24078488
WARD, SMITH & HILL, PLLC
1507 Bill Owens Parkway
Longview, TX 75604
(903) 757-6400 (telephone)
(903) 757-2323 (facsimile)
jw@wsfirm.com
claire@wsfirm.com
andrea@wsfirm.com

Counsel for Defendants Garmin International, Inc. and Garmin USA, Inc.

CERTIFICATE OF SERVICE

I hereby certify that on this 2nd day of December, 2016, I electronically filed the foregoing document with the Clerk of the Court using the CM/ECF system, which will send notification of such filing to the following:

Deron R. Dacus THE DACUS FIRM 821 ESE Loop 323, Suite 430 Tyler, TX 75701 ddacus@dacusfirm.com

Kirk T. Bradley
M. Scott Stevens
Christopher C. Ziegler
ALSTON & BIRD LLP
Bank of America Plaza,
101 South Tryon Street, Suite 4000
Charlotte, NC 28280-4000
kirk.bradley@alston.com
scott.stevens@alston.com
chris.ziegler@alston.com

Frank G. Smith ALSTON & BIRD LLP 1201 W. Peachtree St. Atlanta, GA 30309 frank.smith@alston.com

Counsel for Plaintiffs Navico Inc. and Navico Holding AS

/s/ Andrea Fair